

## SEQUENCE LISTING

<110> Garvan Institute of Medical Research

5 <120> Method of modulating bone growth, remodeling and adiposity

<130> 501789/MRO

<160> 20

10 <170> PatentIn version 3.1

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20 His Leu Pro Leu Ala Val Ile Phe Thr Leu Ala Leu Ala Tyr Gly Ala  
 35 40 45

25 Val Ile Ile Leu Gly Val Ser Gly Asn Leu Ala Leu Ile Ile Ile Ile  
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Leu Lys Gln Lys Glu Met Arg Asn Val Thr Asn Ile Leu Ile Val Asn  
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30 Leu Ser Phe Ser Asp Leu Leu Val Ala Val Met Cys Leu Pro Phe Thr  
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35 Phe Val Tyr Thr Leu Met Asp His Trp Val Phe Gly Glu Thr Met Cys  
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40 Lys Leu Asn Pro Phe Val Gln Cys Val Ser Ile Thr Val Ser Ile Phe  
 115 120 125

45 Ser Leu Val Leu Ile Ala Val Glu Arg His Gln Leu Ile Ile Asn Pro  
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Arg Gly Trp Arg Pro Asn Asn Arg His Ala Tyr Ile Gly Ile Thr Val  
 145 150 155 160

50 Ile Trp Val Leu Ala Val Ala Ser Ser Leu Pro Phe Val Ile Tyr Gln  
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Ser Tyr Thr Thr Leu Leu Leu Val Leu Gln Tyr Phe Gly Pro Leu Cys  
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24

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	Arg Gly Glu Leu Pro Pro Asp Pro Glu Pro Glu Leu Ile Asp Ser Thr	
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	Lys Leu Val Glu Val Gln Val Ile Leu Ile Leu Ala Tyr Cys Ser Ile	
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	Ile Leu Leu Gly Val Val Gly Asn Ser Leu Val Ile His Val Val Ile	
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	Lys Phe Lys Ser Met Arg Thr Val Thr Asn Phe Phe Ile Ala Asn Leu	
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	Ala Val Ala Asp Leu Leu Val Asn Thr Leu Cys Leu Pro Phe Thr Leu	
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	Thr Tyr Thr Leu Met Gly Glu Trp Lys Met Gly Pro Val Leu Cys His	
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	Leu Val Pro Tyr Ala Gln Gly Leu Ala Val Gln Val Ser Thr Ile Thr	
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	Leu Thr Val Ile Ala Leu Asp Arg His Arg Cys Ile Val Tyr His Leu	
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[illegible]

27

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 Lys Leu Val Glu Val Gln Val Ile Leu Ile Leu Ala Tyr Cys Ser Ile  
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 Thr Tyr Thr Leu Met Gly Glu Trp Lys Met Gly Pro Val Leu Cys His  
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 Leu Val Pro Tyr Ala Gln Gly Leu Ala Val Gln Val Ser Thr Ile Thr  
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 55 Leu Thr Val Ile Ala Leu Asp Arg His Arg Cys Ile Val Tyr His Leu  
 145 150 155 160  
 60 Glu Ser Lys Ile Ser Lys Arg Ile Ser Phe Leu Ile Ile Gly Leu Ala  
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 Trp Gly Ile Ser Ala Leu Leu Ala Ser Pro Leu Ala Ile Phe Arg Glu

28

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10	Glu Lys Trp Pro Gly Glu Glu Lys Ser Val Tyr Gly Thr Val Tyr Ser 210 215 220		
15	Leu Ser Thr Leu Leu Ile Leu Tyr Val Leu Pro Leu Gly Ile Ile Ser 225 230 235 240		
20	Phe Ser Tyr Thr Arg Ile Trp Ser Lys Leu Arg Asn His Val Ser Pro 245 250 255		
25	Gly Ala Ala Ser Asp His Tyr His Gln Arg Arg His Lys Met Thr Lys 260 265 270		
30	Met Leu Val Cys Val Val Val Val Phe Ala Val Ser Trp Leu Pro Leu 275 280 285		
35	His Ala Phe Gln Leu Ala Val Asp Ile Asp Ser His Val Leu Asp Leu 290 295 300		
40	Lys Glu Tyr Lys Leu Ile Phe Thr Val Phe His Ile Ile Ala Met Cys 305 310 315 320		
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	His Ala Cys Ser Ser Arg Ala Gly Gln Met Lys Arg Ile Asn Ser Met	
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	270 275 280	
20	gtg ttc aac act ctg gag gac tgg tac cag gaa gcc atc cct gct tgc	1097
	Val Phe Asn Thr Leu Glu Asp Trp Tyr Gln Glu Ala Ile Pro Ala Cys	
	285 290 295	
	cat ggc aac ctc atc ttc ttg atg tgc cac ctg ttg gcc atg gct tcc	1145
	His Gly Asn Leu Ile Phe Leu Met Cys His Leu Leu Ala Met Ala Ser	
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	Thr Cys Val Asn Pro Phe Ile Tyr Gly Phe Leu Asn Ile Asn Phe Lys	
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Gly Cys Gln Asp Ser Ala Glu Leu Leu Ala Phe Ile Ile Thr Thr Tyr  
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Ser Ile Glu Thr Ile Leu Gly Val Leu Gly Asn Leu Cys Leu Ile Phe  
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Val Thr Thr Arg Gln Lys Glu Lys Ser Asn Val Thr Asn Leu Leu Ile  
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Ala Asn Leu Ala Phe Ser Asp Phe Leu Met Cys Leu Ile Cys Gln Pro  
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Leu Thr Val Thr Tyr Thr Ile Met Asp Tyr Trp Ile Phe Gly Glu Val  
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Leu Cys Lys Met Leu Thr Phe Ile Gln Cys Met Ser Val Thr Val Ser  
 115 120 125  
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Ile Leu Ser Leu Val Leu Val Ala Leu Glu Arg His Gln Leu Ile Ile  
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Asn Pro Thr Gly Trp Lys Pro Ser Ile Phe Gln Ala Tyr Leu Gly Ile  
 145 150 155 160  
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Val Val Ile Trp Phe Ile Ser Cys Phe Leu Ser Leu Pro Phe Leu Ala  
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Asn Ser Thr Leu Asn Asp Leu Phe His Tyr Asn His Ser Lys Val Val  
 180 185 190  
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Glu Phe Leu Glu Asp Lys Val Val Cys Phe Val Ser Trp Ser Ser Asp  
 195 200 205  
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His His Arg Leu Ile Tyr Thr Thr Phe Leu Leu Leu Phe Gln Tyr Cys  
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55	agt cag aac acg gcc tcc cct gcc tgg gag gac tac aga ggc aca gag Ser Gln Asn Thr Ala Ser Pro Ala Trp Glu Asp Tyr Arg Gly Thr Glu 25 30 35	210
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65	tat aga ggc agc gta gac gac tta caa tac ttc ctg att ggg ctc tat Tyr Arg Gly Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr 55 60 65	306
70	aca ttt gta agt ctt ctt ggt ttt atg gga aat cta ctt atc tta atg	354



## 33

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	Ala	Val	Met	Lys	Lys	Arg	Asn	Gln	Lys	Thr	Thr	Val	Asn	Phe	Leu	Ile	
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	Gly	Asn	Leu	Ala	Phe	Ser	Asp	Ile	Leu	Val	Val	Leu	Phe	Cys	Ser	Pro	
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	Phe	Thr	Leu	Thr	Ser	Val	Leu	Leu	Asp	Gln	Trp	Met	Phe	Gly	Lys	Ala	
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	Met	Cys	His	Ile	Met	Pro	Phe	Leu	Gln	Cys	Val	Ser	Val	Leu	Val	Ser	
		135						140					145				
25	act	ctg	att	tta	ata	tcg	att	gcc	att	gtc	agg	tat	cat	atg	ata	aag	594
	Thr	Leu	Ile	Leu	Ile	Ser	Ile	Ala	Ile	Val	Arg	Tyr	His	Met	Ile	Lys	
		150				155					160					165	
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	His	Pro	Ile	Ser	Asn	Asn	Leu	Thr	Ala	Asn	His	Gly	Tyr	Phe	Leu	Ile	
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	Ala	Thr	Val	Trp	Thr	Leu	Gly	Phe	Ala	Ile	Cys	Ser	Pro	Leu	Pro	Val	
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	Phe	His	Ser	Leu	Val	Glu	Leu	Lys	Glu	Thr	Phe	Gly	Ser	Ala	Leu	Leu	
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	Ile	Ala	Phe	Thr	Ile	Ser	Leu	Leu	Leu	Val	Gln	Tyr	Ile	Leu	Pro	Leu	
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	Val	Cys	Leu	Thr	Val	Ser	His	Thr	Ser	Val	Cys	Arg	Ser	Ile	Ser	Cys	
					250					255					260		
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	Gly	Leu	Ser	His	Lys	Glu	Asn	Arg	Leu	Glu	Glu	Asn	Glu	Met	Ile	Asn	
				265					270					275			
65	tta	act	cta	cat	cca	tcc	aaa	aag	agt	cgg	gac	cag	gca	aaa	ccc	ccc	978
	Leu	Thr	Leu	His	Pro	Ser	Lys	Lys	Ser	Arg	Asp	Gln	Ala	Lys	Pro	Pro	
				280				285					290				
70	agc	act	caa	aag	tgg	agc	tac	tca	ttc	atc	aga	aag	cac	cga	aga	agg	1026
	Ser	Thr	Gln	Lys	Trp	Ser	Tyr	Ser	Phe	Ile	Arg	Lys	His	Arg	Arg	Arg	
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75	tac	agc	aag	aag	acg	gca	tgc	gtg	tta	ccc	gcc	cca	gca	gga	cct	tcc	1074
	Tyr	Ser	Lys	Lys	Thr	Ala	Cys	Val	Leu	Pro	Ala	Pro	Ala	Gly	Pro	Ser	
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80	cag	gag	aag	cac	cta	acc	gtt	cca	gaa	aac	cca	ggc	tcg	gtc	cgt	agc	1122

## 34

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	Gln	Leu	Ser	Pro	Ser	Ser	Lys	Val	Ile	Pro	Gly	Val	Pro	Ile	Cys	Phe	
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	Glu	Val	Lys	Pro	Glu	Glu	Ser	Ser	Asp	Ala	Gln	Glu	Met	Arg	Val	Lys	
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	Arg	Ser	Leu	Thr	Arg	Ile	Lys	Lys	Arg	Ser	Arg	Ser	Val	Phe	Tyr	Arg	
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20	ctg	act	ata	ttg	ata	tta	gtg	ttc	gct	gtt	agc	tgg	atg	cca	ctc	cac	1314
	Leu	Thr	Ile	Leu	Ile	Leu	Val	Phe	Ala	Val	Ser	Trp	Met	Pro	Leu	His	
						395					400					405	
25	gtc	ttc	cac	gtg	gtg	acc	gat	ttc	aat	gat	aac	ctg	att	tcc	aat	agg	1362
	Val	Phe	His	Val	Val	Thr	Asp	Phe	Asn	Asp	Asn	Leu	Ile	Ser	Asn	Arg	
					410					415					420		
30	cat	ttc	aag	ctg	gtg	tac	tgc	atc	tgt	cac	ttg	tta	ggc	atg	atg	tcc	1410
	His	Phe	Lys	Leu	Val	Tyr	Cys	Ile	Cys	His	Leu	Leu	Gly	Met	Met	Ser	
				425				430						435			
35	tgt	tgt	ctt	aat	ccg	atc	tta	tat	gga	ttc	ctt	aat	aat	ggg	atc	aaa	1458
	Cys	Cys	Leu	Asn	Pro	Ile	Leu	Tyr	Gly	Phe	Leu	Asn	Asn	Gly	Ile	Lys	
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 Val Asn Phe Leu Ile Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val  
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 Ser Asp Ser Tyr Arg Ile Ala Phe Thr Ile Ser Leu Leu Leu Val Gln  
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 Tyr Ile Leu Pro Leu Val Cys Leu Thr Val Ser His Thr Ser Val Cys  
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 Arg Ser Ile Ser Cys Gly Leu Ser His Lys Glu Asn Arg Leu Glu Glu  
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Gln Ala Lys Pro Pro Ser Thr Gln Lys Trp Ser Tyr Ser Phe Ile Arg  
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Lys His Arg Arg Arg Tyr Ser Lys Lys Thr Ala Cys Val Leu Pro Ala  
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Pro Ala Gly Pro Ser Gln Glu Lys His Leu Thr Val Pro Glu Asn Pro  
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Val Pro Ile Cys Phe Glu Val Lys Pro Glu Glu Ser Ser Asp Ala Gln  
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Glu Met Arg Val Lys Arg Ser Leu Thr Arg Ile Lys Lys Arg Ser Arg  
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Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile Leu Val Phe Ala Val Ser  
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Trp Met Pro Leu His Val Phe His Val Val Thr Asp Phe Asn Asp Asn  
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Leu Ile Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu  
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